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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,728	01/26/2004	Lothar Stadelmeier	282727US8X	2657

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EXAMINER	
PHAN, MAN U	

ART UNIT	PAPER NUMBER
2619	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/765,728	STADELMEIER ET AL.	
	Examiner	Art Unit	
	Man Phan	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 December 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-18, 20-23* is/are rejected.

7)☒ Claim(s) *19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Response to Amendment

1. This communication is in response to applicant's 12/10/2007 Amendment in the application of Stadelmeier et al. for the "Method for operating an RLAN arrangement" filed 01/26/2004. This application claims foreign priority based on the application 03 002 025.9 filed January 28, 2002 in European Patent Office (EPO). Receipt is acknowledged of papers submitted under 35 U.S.C 119(a) – (d), which papers have been placed of record in the file. The amendment and remark filed 12/10/2007 has been entered and made of record. Claims 1-13 have been canceled and new claims 14-23 have been added. Claims 14-23 are pending in the application.

Claim Objections

2. A series of singular dependent claims is permissible in which a dependent claim refers to a preceding claim which, in turn, refers to another preceding claim.

A claim which depends from a dependent claim should not be separated by any claim which does not also depend from said dependent claim. It should be kept in mind that a dependent claim may refer to any preceding independent claim. In general, applicant's sequence will not be changed. See MPEP § 608.01(n).

Claim 19 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim. See MPEP § 608.01(n). Accordingly, claim 19 not been further treated on the merits. Appropriate correction is required.

3. Claims 23 is objected to because of the following informalities: The claims contains the phrase "*adapted to*" (lines 2, 8). It has been held that the recitation that an element is "*adapted*

to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison, 69 USPQ 138.* Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 14-18, 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188).

With respect to claims 14 and 20, 21, 23, the references disclose a novel system and method for detecting and avoiding interference with radar signals in wireless network devices,

according to the essential features of the claims. McFarland et al. (US#6,697,013) discloses in Fig. 1 a schematical diagram illustrated an RLAN arrangement includes the coverage area overlap and interference problems associated with 5 GHz WLAN systems. In system 100, two independent networks 103 and 105 are installed near to each other. Within their respective coverage areas, access points (AP) 102 and 104 provide access to a fixed backbone network such as an Ethernet LAN or an IEEE 1394 network. Each network 103 and 105 also includes a number of mobile terminals (MT) wirelessly coupled to their respective network access points. Each mobile terminal can associate and dissociate with access points in the radio coverage area. The two radio coverage areas A and B are shown to overlap, thus illustrating the possibility of interference between the WLAN devices (mobile terminals and/or access points) in the coverage areas. The core fixed networks for the access points are in general not the same, and therefore there is no coordination between the two independent coverage areas. Digital Frequency Selection (DFS) within each independent wireless network may be used to control the radio frequency to allow independent WLANs to co-exist in overlapping zones. DFS techniques allow each access point to choose a frequency with sufficiently low interference; and other mechanisms, such as Transmission Power Control (TPC) reduces the range of interference from terminals, increasing spectral efficiency via more frequent channel re-use within a given geographic area. As illustrated in FIG. 1, a radar system 107 comprising a radar source 106 operating in coverage area C may also overlap one or more of the coverage areas operated by an access point. The radar source could be a fixed radar source, such as a radar transmitter, or it could be a mobile radar source, such as an airplane. The overlap between coverage area C and coverage area B illustrates potential radar interference with the WLAN traffic between access

point 102 and its respective mobile terminals. In one embodiment of the present invention, access point 102 includes a radar detection and avoidance system that enables the WLAN system 103 to detect the interfering radar signals, possibly identify the radar source 106 (if its signature or profile is known), and switch to a channel that is free of the radar interference. For system 100 in Fig. 1, access point 102 includes a radar detection system that detects the presence of interfering radar signals. It is assumed that the access point equipment operates in the frequency ranges of 5.15 GHz to 5.35 GHz. This frequency range is generally divided into ten channels of 20 GHz each. Of these, typically eight are available for use by the access point. Upon initialization, for a given channel, the access point listens to detect whether any radar signals are present. If a radar signal is present, the access point WLAN device switches to another channel, until it finds one that is free of radar signal traffic. This allows the dynamic selection of frequencies within the 5 GHz frequency space to avoid interfering with radar sources (Col. 2, lines 45 plus and Col. 3, lines 15 plus).

In the same field of endeavor, Khun-Jush et al. (US#7,024,188) teaches a method for use in a wireless LAN-system of the 802.11-type for avoiding interference between radar signals and the signals exchanged between a plurality of wireless broadcasting nodes in the system. Khun-Jush discloses a method for use in a wireless communications system with a plurality of broadcasting nodes, comprising the step of enabling one node in the system to function as a central node in said system and letting said node enable measurements on at least one frequency in a frequency band used by the system. Said measurements are carried out to detect if said at least one frequency is being utilized by a transmitter foreign to the system. Preferably, the measurement is enabled by means of the node transmitting a message to other nodes in the

system, said message being a message pre-defined within the system as a message prohibiting all nodes from transmitting during a certain interval, said message being transmitted after the system has been detected by the node to be silent during a predefined interval between frame transmissions from the nodes in the system (the Abstract and Col. 15, lines 61 plus).

It's also noted that Wireless Local Area Network (WLAN) devices must coexist with radar in the 5 GHz frequency bands. Interference mitigation techniques are required to enable WLAN devices to share these frequency bands with radar systems. The general requirement is that these devices detect interference, identify the radar interfering sources, and avoid using the frequencies used by the radar. Dynamic Frequency Selection (DFS) is used as a spectrum sharing mechanism by certain standards committees that define rules dictating the use of the 5 GHz space. For example, the European Telecommunications Standards Institute (ETSI), which is involved in developing standards for Broadband Radio Access Networks (BRAN), requires that transceiver equipment for use in HIPERLAN (High Performance Radio Local Area Networks) employ DFS mechanisms to detect interference from other systems to enable avoidance with co-channel operations with these other systems, notably radar systems. The goal is to provide a uniform spread of equipment loading across a number of channels, such as fourteen channels of 330 MHz each, or 255 MHz each for equipment used only in bands 5470 MHz to 5725 MHz.

Regarding claims 15-18, Khun-Jush further teaches a method by means of which a wireless communications system can detect the presence of radar signals transmitted on the frequency band which has been assigned to the communications system. During the time reserved by the RDD for a transmission, the RDD does not transmit but will only measure. Therefore, this measurement is not disturbed by other RLAN devices (with some rare exceptions

that an RLAN device has not received the RTS). Because the RTS transmission request has to use the standardized competition period within DCF, the access on the transmission channel may be delayed if the traffic load in the neighborhood is high. Therefore, the time T_I can only roughly assessed. It is therefore proposed to give an RLAN device, which has to detect radar, a higher priority during the competition period than other RLAN devices. It is further proposed to control this priority by the definition of a new inter frame space RIFS (Radar Inter Frame Space). RIFS shall be shorter than DIFS, but larger than SIFS. Possibly it is equal to PIFS. I.e. SIFS<RIFS<=PIFS<DIFS. In this case no additional frame space has to be specified, only that the RDD or another device, which silences the medium is allowed to us PIFS to get access to the medium, has to be specified.

Regarding claim 22, this claim differs from claims McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188) in that the claims recited a computer program product for performing the same basis of steps and apparatus of the prior arts as discussed in the rejection of claims 14, 20-21 above. It would have been obvious to a person of ordinary skill in the art to implement a computer program product in McFarland et al. (US#6,697,013) in view of Khun-Jush et al. (US#7,024,188) for performing the steps and apparatus as recited in the claims with the motivation being to provide the efficient enhancement to the detecting and avoiding interference with radar signals in wireless network devices, and easy to maintenance, upgrade.

One skilled in the art of communications would recognize the need for a novel system and method for operating an RLAN arrangement, and would apply Khun-Jush's novel use of signaling measurement in a wireless LAN-system of the 802.11-type for avoiding interference between radar signals into McFarland's system for detecting and avoiding interference with radar

signals in wireless network devices. Therefore, It would have been obvious to a person of ordinary skill in the art at the time of the invention was made to apply Khun-Jush's wireless communications system with detection of foreign radiation sources into McFarland's radar detection and dynamic frequency selection for wireless LANs with the motivation being to provide a system and method for operating an RLAN arrangement.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The Lappetelainen et al. (US#6,671,495) is cited to show the method for transmitting measurement data in a wireless communication system and a wireless communication system.

The Tanoue (US#6,041,238) is cited to show the channel assignment method in mobile communications system.

The McHenry (US#7,146,176) is cited to show the system and method for reuse of communications spectrum for fixed and mobile applications with efficient method to mitigate.

The Wilcoxson et al. (US#6,865,166) is cited to show the interference management of a processing communications satellite.

The Benveniste (US#6,615,040) is cited to show the self configurable wireless systems spectrum monitoring in a layered configuration.

The Choi et al. (US#7,206,840) is cited to show the dynamic frequency selection scheme for IEEE 802.11 WLANS.

The Barnes et al. (US#4,829,554) show the cellular mobile telephone system and method.

The Vigier et al. (US#2005/0043047) cited to show the communication system with detection of extra system interference.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. Phan whose telephone number is (571) 272-3149. The examiner can normally be reached on Mon - Fri from 6:00 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel, can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at toll free 1-866-217-9197.

02/28/2008.

/Man Phan/

Primary Examiner, Art Unit 2619